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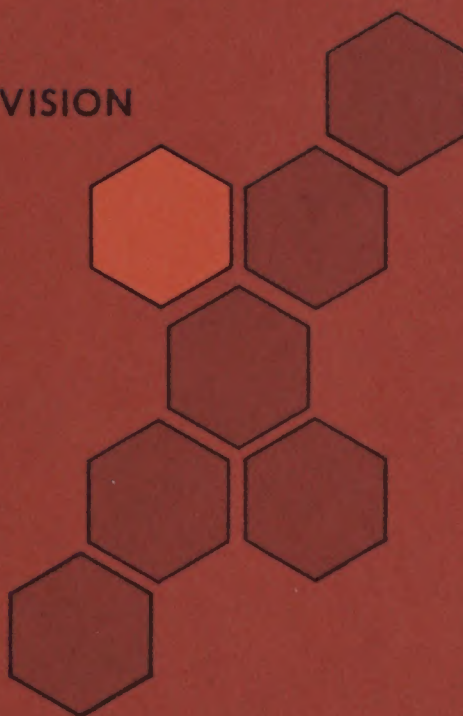
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By

W. H. Brown
Economic Research Service
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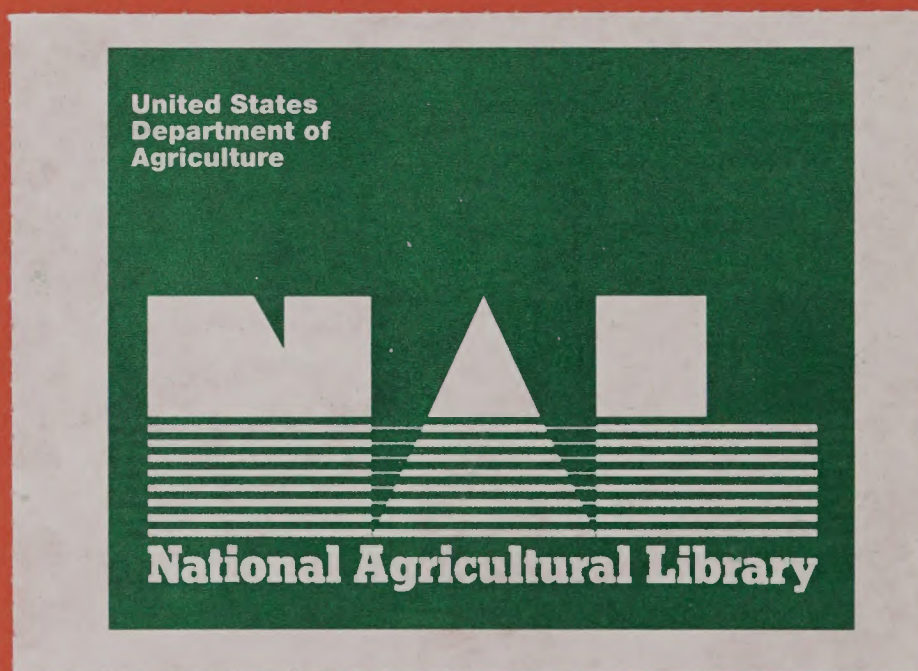
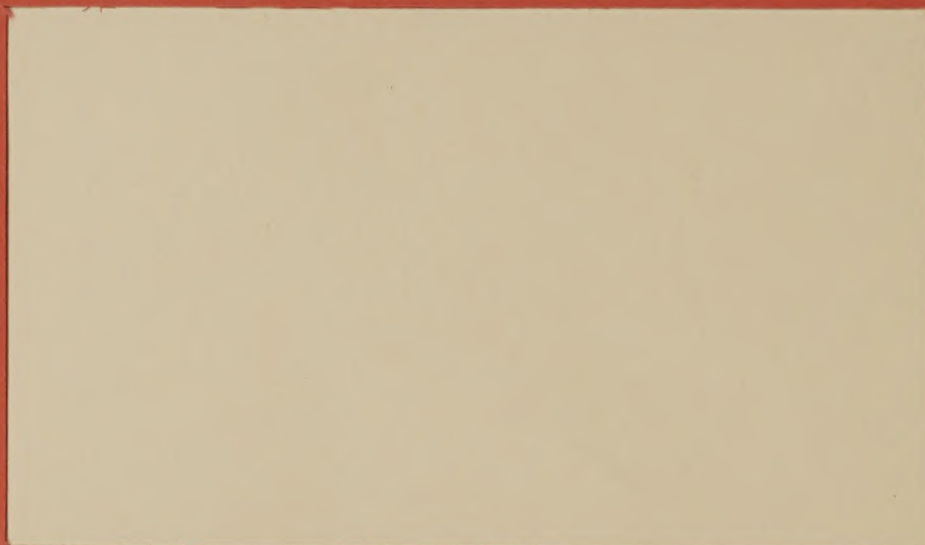
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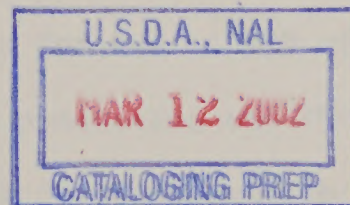


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INCREASE IN VARIABLE COSTS PER ACRE OF PRODUCING WHEAT, FEED GRAINS, SOYBEANS AND COTTON IN SELECTED AREAS

W. H. Brown

Costs of crop production have risen rapidly since the Farm Production Economics Division published its reports on variable costs for 1970. Nearly all of the per acre cost increase is due to the rapid rise in prices paid for farm production items. The rate of use has changed only moderately for most inputs.

The 1970 estimates are being revised and the procedure for updating budgets is being computerized under the new firm enterprise data system project. But this will not be completed for some time. The purpose of this report is to provide interim estimates of cost changes since 1970 for feed grains, wheat, soybeans and cotton in selected producing areas.

These estimates are being made available for use of ERS commodity and policy analysts in projecting changes in production and the combination of crops that may be expected from the large changes in recent years in both prices and costs.

Except for the Great Plains, estimates of changes in variable costs per acre were obtained by adjusting the 1970 data for changes in prices paid as reported in Agricultural Prices, or ERS projections of prices paid (table 1). In the Great Plains a similar procedure was used except that revised estimates for 1973 were used as the bench mark for estimating other years. Because most of the increase in fertilizer prices occurred after the winter wheat crop was planted in the fall of 1973 estimates of winter wheat costs for the 1974 crop do not reflect the full impact of recent increases in prices paid. For this reason

projections were made for the 1975 winter wheat crop using the most recent information available.

Fertilizer used per acre on corn, wheat, cotton and soybeans, was updated with the use of SRS reports. Adjustments in quantities of fertilizer used per acre as well as the trend in yield per planted acre are shown at the bottom of each table. Adjustments in fertilizer quantities were most significant for wheat. Small adjustments were made for shifts to reduced tillage but the effect of this adjustment on total variable costs was small.

Estimates of variable costs are shown both including and excluding operator labor (table 2). Labor was divided between operator and hired labor in the same ratio as the figures for state employment reported in Farm Labor.

Variable cash costs for producing spring wheat (other than durum) approximately doubled from 1970 to 1974. Winter wheat variable cash costs for the 1975 crop will be at least double 1970 costs. The largest percentage increase occurred in areas where fertilizer accounted for a relatively high proportion of variable costs such as the eastern part of the Great Plains.

Costs for corn production increased about three-fourths over 1970 with the increase for irrigated corn in Nebraska being greater than costs shown for nonirrigated corn. Costs for production of grain sorghum, barley and oats increased by 82 to 90 percent from 1970.

Soybean variable cash costs increased about two-thirds from 1970 to 1974. The relatively large increase in soybean costs from 1970 to 1973--34 to 41 percent--was largely due to higher prices paid for purchased seed. The small increase from 1973 to 1974 in soybean costs

relative to other crops largely reflects the small amount of fertilizer used on soybeans and the small increase in prices paid for seed.

The smallest percentage increases but generally the largest dollar increases from 1970 to 1974 occurred on cotton. Although substantial quantities of fertilizer are used in most areas, fertilizer costs were a smaller proportion of total variable cash costs of growing cotton than for feed grain and wheat on the same farms.

The large increase in prices paid for input items not only resulted in a substantial increase in farm operating expenses but affected the competitive position of alternative crops in some areas. The per acre cost increase in Northern Indiana was only slightly higher for corn than for soybeans between 1970 and 1973. However, with the recent sharp rise in fertilizer prices the increase for corn is more than double the increase for soybeans from 1970 to 1974 (Table 4). Based on 1973 corn prices received by farmers and 1973-74 expected crop yields the break-even soybean-corn price ratio was reduced from 3.4 to 3.2 by the change in costs per acre from 1973 to 1974. However, this change in cost relationships was not sufficient to significantly affect supply response in 1974.

In the Coastal Plain of South Carolina and Georgia variable costs for corn increased more than for soybeans from 1970 to 1974 but the shift was not as great in Northern Indiana. This was largely because more fertilizer is used on soybeans in the Southeast than in the Cornbelt.

In both the Delta and the Coastal Plain of South Carolina and Georgia the increase in variable costs per acre of cotton from 1970

to 1973 and from 1970 to 1974 was from 3 to 4 times the increase in variable costs for alternative crops such as corn and soybeans. This shift in cost relationships was equivalent to a reduction of 5.5 to 8.0 cents in the price of cotton lint. The effect of relative changes in cost per acre of these magnitudes on acreage response depends on prices received for cotton and competing crops. In the southeast, in particular, expected prices received for the coming year could be such that returns above variable costs for cotton are relatively close to returns for corn and soybeans and the increase in costs per acre could have a substantial effect on acreage response.

The increase in variable costs for wheat from 1970 to 1973 and from 1970 to 1974 were about the same as the increase for grain sorghum, barley or oats in the same areas.

Prices paid for many production items have increased sharply since the passage of the 1973 Agricultural and Consumer Protection Act in August 1973. Under present legislation the target prices will not be changed for 1975. In addition the increase in prices paid between the time of passage of the Act and January 1, 1975 will not be taken into account in adjusting the target prices for 1976 and 1977. In view of recent bills introduced in Congress to modify the procedure to adjusting target prices, an analysis could be made of the effect of including the increase in prices paid between passage of the 1973 act and January 1, 1975 in the formula for adjusting target prices on these prices for 1975 and later years. However, because taxes and prices paid for some overhead items have not increased as much as inputs used directly on crops the percentage changes shown here are not appropriate for use in adjusting target prices.

Table 1. Changes in Farm Input Prices-- 1970 to date

Item	Index Numbers (1970=100)		
	1972 percent	1973 percent	1974 percent
<u>Seed</u>			
corn (April)	137	141	162
Grain Sorghum (April)	103	118	159
Barley (April)	107	126	215
Oats (April)	101	125	204
Cotton (April)	111	117	161
Soybeans (April)	130	218	236
Wheat (winter) (Sept.)	116	282	
Wheat (spring) (April)	111	134	353
<u>Fertilizer</u>			
Anhydrous ammonia (April)	107	117	244
(Sept.)	107	120	
Ammonium nitrate (April)	108	119	232
(Sept.)	107	127	
20 % phosphate (April)	110	118	201
(Sept.)	109	119	
46 % phosphate (April)	104	117	200
(Sept.)	104	124	
Muriate of potash (April)	116	121	160
(Sept.)	109	118	
Motor supplies (Annual)	106	113	145 <u>1/</u>
Motor Vehicles (Annual)	112	118	129 <u>2/</u>
Farm machinery (Annual)	114	124	133 <u>1/</u>
Farm supplies (Annual)	108	113	128 <u>1/</u>
Wages rates (Annual)	111	121	135 <u>3/</u>

Source: Agricultural Prices

1/ March 19742/ May 19743/ April 1974

Table 2--Index numbers of variable cash costs per acre planted of Wheat, Feed Grains, Soybeans and Cotton, Selected Areas, 1973, 1974 and projected costs for winter wheat, 1975

Crop and area	1973	1974	1975
	(Index numbers 1970=100)		
Spring wheat (other than Durum)			
After crop, Eastern North Dakota	141	227	
On fallow, North Central and South Central Montana	122	185	
Winter wheat			
On fallow, Western Nebraska	120	165	189
After crop, Central Kansas	120	158	225
On fallow, Central Kansas	119	158	215
Irrigated, Kansas	119	147	200
On fallow, Central and South Central Washington	114	153	194
After crop, East Central Illinois	123	157	223
Barley			
After crop, Eastern North Dakota	119	189	
Oats			
Eastern North Dakota	119	183	
Corn			
Northern Indiana	120	170	
Irrigated, Nebraska	121	187	
Coastal plain of South Carolina and Georgia	121	172	
Grain Sorghum			
Central Kansas	117	190	
Irrigated, Kansas	119	182	
Soybeans			
Northern Indiana	147	177	
Mississippi Delta, loam soil	142	167	
Coastal Plain of South Carolina and Georgia	134	167	
Cotton			
Irrigated, San Joaquin Valley of California, eastside	114	142	
Irrigated High Plains of Texas	121	149	
Non-irrigated Mississippi Delta (loam soil)	119	144	
Coastal Plain of South Carolina and Georgia (large farm)	120	152	

Table 3 Variable Cost per Planted Acre of Feed Grains, Wheat, Soybeans and Cotton, Selected Areas, 1970, 1973, 1974 and projected 1975 for Winter Wheat

Crop and area	Unit	Excluding operator labor				Including operator labor			
		1970	1973	1974	1975	1970	1973	1974	1975
Spring Wheat (other than durum) After crop, Eastern North Dakota	Dol. Bu. <u>1</u> /	10.26 29.8	14.50 32.2	23.28 33.0		11.69 16.24	25.18		
On fallow, North Central and South Central Montana	Dol. Bu. <u>1</u> /	12.95 22.5	15.75 23.4	23.94 23.7		14.85 18.06	26.46		
Winter Wheat <u>2</u> / On fallow, Western Nebraska	Dol. Bu. <u>1</u> /	6.78 26.7	8.16 28.9	11.17 31.0	12.84 33.1	8.63 10.32	13.58	15.41	
After crop, Central Kansas	Dol. Bu. <u>1</u> /	12.77 25.5	15.39 27.5	20.24 28.2	23.69 28.9	15.40 18.44	23.51	32.16	
On fallow, Central Kansas	Dol. Bu. <u>1</u> /	12.46 29.5	14.85 31.8	19.64 32.6	26.81 33.3	15.47 18.32	23.36	30.94	
Irrigated, Kansas	Dol. Bu. <u>1</u> /	23.24 34.3	27.76 37.0	34.06 37.8	46.57 38.6	29.26 34.43	41.88	54.88	
On fallow, Central and South Central Washington	Dol. Bu. <u>1</u> /	13.99 32.5	15.98 34.3	21.40 34.9	27.17 35.5	15.57 17.81	23.45	29.32	
After crop, East Central Illinois	Dol. Bu. <u>1</u> /	29.02 43.5	35.75 45.8	45.67 46.6	64.60 47.4	32.34 39.53	49.91	69.11	
Barley After crop, Eastern North Dakota	Dol. Bu. <u>1</u> /	12.74 41.9	15.18 44.8	24.13 45.7		14.17 16.91	26.3		
Oats Eastern North Dakota	Dol. Bu. <u>1</u> /	10.98 57.3	13.05 62.1	20.09 63.7		12.40 14.76	21.98		
Corn Northern Indiana	Dol. Bu. <u>1</u> /	38.38 95.0	46.21 103.0	65.30 105.8		44.50 53.67	73.43		
Irrigated, Nebraska	Dol. Bu. <u>1</u> /	44.27 109.2	53.55 119.2	82.75 122.5		50.24 60.89	90.73		
Coastal Plain of South Carolina and Georgia	Dol. Bu. <u>1</u> /	34.26 56.0	41.54 59.0	58.82 60.0		37.81 45.88	63.55		
Grain Sorghum Central Kansas	Dol. Bu. <u>1</u> /	14.32 40.5	16.75 45.0	27.26 46.5		16.82 19.81	30.64		
Irrigated, Kansas	Dol. Bu. <u>1</u> /	37.05 85.2	44.15 91.5	67.40 93.0		44.33 53.02	77.09		
Soybeans Northern Indiana	Dol. Bu. <u>1</u> /	17.75 26.2	26.15 27.7	31.45 28.2		23.79 32.03	37.85		
Mississippi Delta (Loam Soil)	Dol. Bu. <u>1</u> /	18.93 24.0	26.83 24.4	31.57 24.6		23.62 32.55	37.80		
Coastal Plain of South Carolina and Georgia	Dol. Bu. <u>1</u> /	24.14 25.0	32.41 25.5	40.41 25.7		27.60 36.64	44.96		

Table 3 (cont.)

Crop and Area	Unit	Excluding operator labor				Including operator labor			
		1970	1973	1974	1975	1970	1973	1974	1975
Cotton									
Irrigated, San Joaquin Valley of California	Dol. Lbs. <u>1/</u>	166.32 760	189.41 760	236.16 760		178.00	203.67	251.70	
Irrigated, High Plains of Texas	Dol. Lbs. <u>1/</u>	62.11 570	75.00 572	92.44 573		71.80	86.80	105.34	
Mississippi Delta (Loam Soil)	Dol. Lbs. <u>1/</u>	109.04 710	129.48 712	157.01 713		121.84	145.07	174.01	
Coastal Plain of South Carolina and Georgia	Dol. Lbs. <u>1/</u>	98.81 489	118.65 490	150.23 491		111.72	134.40	167.40	

1/ Normal yield per planted acre.2/ Crop year basis

Table 4--Effect of increased costs on competitive position of alternative crops in selected areas 1970 to 1973 and 1974

Area and crop	Increase in variable cost per acre from 1970 to	
	1973	1974
--dollars--		
<u>Northern Indiana Area V</u>		
Corn	9.17	28.93
Soybeans	8.24	14.06
<u>Coastal Plain of South Carolina and Georgia area B</u>		
Cotton	22.68	55.68
Corn	8.07	25.74
Soybeans	9.04	17.36
<u>Delta area B (loam soils)</u>		
Cotton	23.23	52.17
Soybeans	7.90	12.64
<u>Central Kansas area V</u>		
Winter wheat after crop	3.04	16.76
Winter wheat on fallow	2.85	15.47
Grain sorghum	2.99	13.82
<u>Kansas irrigated area Y</u>		
Winter wheat	5.17	25.62
Grain sorghum	8.69	32.76
<u>Eastern North Dakota area C</u>		
Spring wheat other than durum	4.55	13.49
Barley	2.74	11.80
Oats	2.36	9.58

Table 5.--Spring Wheat other than durum after crop: Estimated variable costs per planted acre for eastern North Dakota area C, 1970, 1973 and 1974

Item	1970 1/	1973	1974
	- - -dollars- - -		
Labor	1.76	2.15	2 34
Seed	1.80	2.42	6.33
Fertilizer N.	1.30	3.14	5.02
P.	2.69	3.58	5.04
K.	.08	.18	.24
Fuel and equipment repairs	2.34	2.76	3.84
Custom work hired	.79	.93	1.11
Chemicals	.44	.50	.59
Insurance	.33	.37	.43
Interest	.16	.21	.24
Total including operator labor	11.69	16.24	25.18
Less operator labor	1.43	1.74	1.90
Total exculding operator labor	10.26	14.50	23.28
Percent of 1970	100	141	227
<hr/>			
Yield--bushels	29.8	32.2	33.0
Fertilizer used N.	15	32	32
P ₂ O ₅	24	27	27
K ₂ O	2	4	4

1/ Revised

Table 6--Spring wheat other than durum on fallow: Estimated variable costs per planted acre for northcentral and south-central Montana area H 1970, 1973 and 1974

Item	1970	1973	1974
		-dollars-	
Labor	2.68	3.27	3.56
Seed	2.10	2.82	7.41
Fuel and equipment repairs	5.58	6.58	8.37
Custom work hired	2.08	2.45	2.93
Chemicals	.70	.79	.93
Insurance	1.40	1.75	2.80
Interest	<u>.31</u>	<u>.40</u>	<u>.46</u>
Total Incl. operator labor	14.85	18.06	26.46
Less operator labor	<u>1.90</u>	<u>2.31</u>	<u>2.52</u>
Total (excluding operator labor)	12.95	15.75	23.94
Percent of 1970	100	122	185
Yield--bushels	22.5	23.4	23.7
Fertilizer			
N.--pounds	none	none	none
P ₂₀₅ --pounds	none	none	none

Table 7--Winter wheat on fallow: Estimated variable costs per
planted acre for Western Nebraska area J
1970, 1973, 1974 and 1975

Item	1970 ^{1/}	1973	1974	1975
		-dollars-		
Labor	2.18	2.54	1.84	3.02
Seed	.97	1.30	3.16	3.16
Fertilizer N.	.56	.76	.81	1.32
P.	.56	.61	.67	1.09
Fuel and Equipment repairs	2.15	2.44	2.87	3.35
Custom work hired	1.86	2.23	2.72	2.88
Chemicals	.03	.03	.05	.05
Insurance	.16	.21	.23	.27
Interest	.16	.20	.23	.27
Total (including operator labor)	8.63	10.32	13.58	15.41
Operator labor	1.85	2.16	2.41	2.57
Total (excluding operator labor)	6.78	8.16	11.17	12.84
Percent of 1970	100	120	165	189
Yield--bushels	26.7	28.9	31.0	33.1
Fertilizer				
N.--pounds	7	7	7	7
P ₂ O ₅ --pounds	5	5	5	5

^{1/} Revised

Table 8--Winter wheat after crop: Estimated variable costs per
planted acre for Central Kansas area V 1970,
1973, 1974 and projected 1975

Item	1970 ^{1/}	1973	1974	1975
		-dollars-		
Labor	2.95	3.43	3.83	4.07
Seed	1.56	1.82	4.39	4.39
Fertilizer N.	3.93	4.85	5.82	10.98
P.	2.88	3.58	3.90	6.39
Fuel and Equipment Repairs	2.56	2.92	3.42	3.98
Chemicals	.02	.03	.05	.06
Custom work hired	.80	.95	1.14	1.26
Insurance	.24	.26	.28	.30
Interest	.46	.60	.68	.73
Total (including operator labor)	15.40	18.44	23.51	32.16
Operator labor	2.63	3.05	3.27	3.47
Total (excluding operator labor)	12.77	15.39	20.24	28.69
Percent of 1970	100	120	158	225
Yield--bushels	25.5	27.5	28.2	28.9
Fertilizer N.--pounds	41	48	49	49
P ₂ O ₅ --pounds	25	27	30	30

^{1/} Revised

Table 9-- Winter wheat on fallow: Estimated variable costs per
planted acre for Central Kansas area V 1970, 1973

1974 and projected 1975

Item	1970 ^{1/}	1973	1974	1975
		-dollars-		
Labor	3.38	3.90	4.40	4.64
Seed	1.56	1.82	4.39	4.39
Fertilizer N.	3.10	3.84	4.61	8.69
P.	2.84	3.58	3.90	6.38
Fuel and Equipment repairs	2.92	3.29	3.89	4.49
Chemical	.02	.03	.05	.06
Insurance	.24	.26	.28	.30
Interest	.52	.55	.58	.61
Custom work hired	.89	1.05	1.26	1.38
Total (including operator labor)	15.47	18.32	23.36	30.94
Operator labor	3.01	3.47	3.72	4.13
Total (excluding operator labor)	12.46	14.85	19.64	26.81
Percent of 1970	100	119	158	215
Yield--bushels	29.5	31.8	32.6	33.3
Fertilizer				
N.--pounds	43	48	48	48
P ₂ O ₅ ---pounds	25	27	27	27

^{1/} Revised

Table 10--Irrigated winter wheat: Estimated variable costs per
planted acre for Kansas irrigated area Y 1970,
1973, 1974 and projected 1975

Item	1970 ^{1/}	1973	1974	1975
		-dollars-		
Labor	6.76	7.85	8.79	9.33
Seed	1.56	1.82	4.39	4.39
Fertilizer N.	5.62	6.87	7.99	15.06
P.	3.73	4.47	4.88	7.97
Fuel and Equipment repairs	3.75	4.29	5.02	5.82
Irrigation, Fuel, equipment and repairs	5.18	5.88	6.94	8.03
Chemicals	.02	.02	.03	.04
Crop Insurance	.24	.28	.39	.41
Custom hire	1.59	1.88	2.24	2.48
Interest	<u>.81</u>	<u>1.07</u>	<u>1.21</u>	<u>1.35</u>
Total (including operator labor)	29.26	34.43	41.88	54.88
Operator labor	<u>6.02</u>	<u>6.67</u>	<u>7.82</u>	<u>8.31</u>
Total (excluding operator labor)	23.24	27.76	34.06	46.57
Percent of 1970	100	119	147	200
Yield--bushels	34.3	37.0	37.8	38.6
Fertilizer				
N.--pounds	63	68	68	68
P ₂ O ₅ --pounds	32	34	32	32

^{1/} Revised

Table 11--Winter wheat on fallow: Estimated variable costs per
planted acre for central and south central Washington
area A 1970, 1973, 1974 and projected 1975

Item	1970	1973	1974	1975
		-dollars-		
Labor	2.39	2.78	3.11	3.30
Seed	1.78	2.07	5.03	5.03
Fertilizer N.	4.08	4.40	5.19	9.73
Sulphur	.13	.14	.16	.19
Fuel and equipment repairs	3.45	3.91	4.62	5.34
Chemicals	.37	.40	.46	.50
Storage, etc.	3.19	3.77	4.50	4.81
Interest	<u>.26</u>	<u>.34</u>	<u>.38</u>	<u>.42</u>
Total (including operator labor)	15.57	17.81	23.45	29.32
Operator labor	<u>1.58</u>	<u>1.83</u>	<u>2.05</u>	<u>2.15</u>
Total (excluding operator labor)	13.99	15.98	21.40	27.17
Percent of 1970	100	114	153	194
Yield--bushels	32.5	34.3	34.9	35.5
Fertilizer				
N.--pounds	50	51	52	52
Sulphur	11	11	11	11

Table 12--Winter wheat after crop: Estimated variable costs per
planted acre for east central Illinois area Q 1970,
1973, 1974 and projected 1975

Item	1970	1973	1974	1975
		--dollars--		
Labor	3.93	4.56	5.10	5.42
Seed	3.50	4.08	9.89	9.89
Fertilizer N.	6.63	8.46	9.83	18.55
P.	8.86	11.62	12.70	20.72
K.	2.55	2.77	3.00	3.84
Lime	.80	.88	.97	1.16
Fuel and equipment repairs	2.94	3.33	3.94	4.56
Custom work hired	1.69	1.98	2.37	2.62
Interest	1.30	1.68	1.91	2.10
Insurance	.14	.17	.20	.25
Total (including operator labor)	32.34	39.53	49.91	69.11
Operator labor	3.32	3.78	4.24	4.51
Total (excluding operator labor)	29.02	35.75	45.67	64.60
Percent of 1970	100	123	157	223
Yield--bushels	43.5	45.8	46.6	47.4
Fertilizer				
N.--pounds	65	78	78	78
P ₂ O ₅ --pounds	94	112	112	112
K ₂ O--pounds	61	61	61	61

Table 13--Barley after crop: Estimated variable costs per planted
acre for eastern North Dakota area C 1970, 1973
and 1974

Item	1970 ^{1/}	1973 -dollars-	1974
Labor	1.72	2.10	2.29
Seed	1.79	2.26	3.84
Fertilizer N.	2.91	3.43	6.87
P.	3.28	3.87	6.60
K.	.15	.18	.24
Fuel and equipment repairs	2.31	2.74	3.33
Custom work hired	1.23	1.45	1.77
Chemicals	.29	.33	.45
Insurance	.34	.37	.40
Interest	<u>.15</u>	<u>.18</u>	<u>.24</u>
Total Incl. operator labor	14.17	16.91	26.03
Less operator labor	<u>1.43</u>	<u>1.74</u>	<u>1.90</u>
Total (excluding operator labor)	12.74	15.17	24.13
Percent of 1970	100	119	189
Yield--bushels	41.9	44.8	45.7
Fertilizer			
N.--pounds	35	35	35
P ₂ O ₅ --pounds	30	30	30
K ₂ O--pounds	4	4	4

^{1/} Revised

Table 14--Oats: Estimated variable costs per planted acre for
eastern North Dakota area C 1970, 1973
and 1974

Item	1970 ^{1/}	1973	1974
		-dollars-	
Labor	1.71	2.09	2.28
Seed	1.49	1.85	3.03
Fertilizer N.	1.82	2.16	4.30
P.	3.05	3.58	6.12
K.	.10	.12	.16
Fuel and equipment repairs	2.31	2.73	3.39
Custom work hired	1.37	1.62	1.95
Chemicals	.27	.31	.38
Insurance	.15	.17	.19
Interest	<u>.13</u>	<u>.15</u>	<u>.18</u>
Total Incl. operator labor	12.40	14.78	21.98
Less operator labor	<u>1.42</u>	<u>1.73</u>	<u>1.89</u>
Total (excluding operator labor)	10.98	13.05	20.09
Percent of 1970	100	119	183
Yield--bushels	57.3	62.1	63.7
Fertilizer			
N.--pounds	22	22	22
P2O5--pounds	27	27	27
K2O--pounds	2	2	2

^{1/} Revised

Table 15--Corn for grain: Estimated variable costs per planted acre
for northern Indiana area V 1970, 1973
and 1974

Item		1970	1973	1974
			-dollars-	
Labor		7.37	9.00	9.80
Seed		3.60	5.09	5.85
Fertilizer	Nitrogen	6.30	7.43	15.11
	Phosphate	5.83	6.88	11.72
	Potash	2.84	3.41	4.54
	Lime	.70	.85	1.02
Power and Equipment repairs		7.04	8.30	10.35
Chemicals		3.83	4.33	5.09
Custon work hired		5.87	6.94	8.30
Interest		1.12	1.44	1.65
Total (including operator labor)		44.50	53.67	73.43
Operator labor		6.12	7.46	8.13
Total (excluding operator labor)		38.38	46.21	65.30
Percent of 1970		100	120	170
Yield--bushels		95	103	106
Fertilizer				
	N.--pounds	100	100	100
	P ₂ O ₅ --pounds	27	27	27
	K ₂ O--pounds	58	58	58

Table 16--Irrigated Corn for grain: Estimated variable cost per
planted acre for irrigated Nebraska area M 1970,

1973 and 1974

Item	1970 ^{1/}	1973	1974
Labor	7.02	-dollars-	
Seed	5.28	8.64	9.39
Fertilizer N.	16.50	7.42	8.56
P.	4.89	19.44	38.94
K.	.48	5.78	9.82
Chemicals	.40	.58	.77
Fuel and Equipment repairs	5.01	.43	.54
Irrigation (fuel and repairs)	4.26	5.91	7.37
Custom work hired	1.77	5.04	6.26
Drying	3.15	2.07	2.46
Crop insurance	.39	3.72	4.45
Interest	1.09	.50	.58
Total (including operator labor)	50.24	1.36	1.59
Operator labor	5.97	60.89	90.73
Total (excluding operator labor)	44.27	7.34	7.89
Percent of 1970	100	53.55	82.75
		121	187
Yield--bushels	109.2	119.2	122.5
Fertilizer			
N.--pounds	180	180	180
P O --pounds	44	44	44
K O--pounds	11	11	11

^{1/} Revised

Table 17--Corn for grain: Estimated costs per planted acre for

Coastal plain of South Carolina and Georgia area

B (large farm) 1970, 1973 and 1974

Item	1970	1973 -dollars-	1974
Labor	4.74	5.78	6.30
Seed	2.50	3.54	4.05
Fertilizer N.	6.30	7.62	14.87
(Mixed)	10.45	12.58	18.91
Fuel and equipment repairs	7.55	8.93	10.84
Custom work hired	.20	.24	.28
Chemicals	3.37	3.81	4.48
Lime	1.29	1.56	1.87
Interest	<u>1.41</u>	<u>1.82</u>	<u>1.95</u>
Total Incl. operator labor	37.81	45.88	63.55
Less operator labor	<u>3.55</u>	<u>4.34</u>	<u>4.73</u>
Total (excluding operator labor)	34.26	41.54	58.82
Percent of 1970	100	121	172
Yield--bushels	56	59	60
Fertilizer			
N.--pounds	86	86	86
P ₂ O ₅ --pounds	24	24	24
K O--pounds	58	58	58

Table 18--Grain sorghum: Estimated variable costs for Central

Kansas Area V 1970, 1973 and 1974

Item	1970 1/	1973 -dollars-	1974
Labor	2.91	3.56	3.93
Seed	.86	.98	1.37
Fertilizer N.	5.29	6.26	12.49
P.	3.03	3.58	6.09
K.	.10	.12	.16
Fuel and equipment repairs	2.23	2.51	3.20
Custom work hired	.96	1.13	1.36
Chemicals	.27	.31	.36
Insurance	.04	.05	.05
Interest	.30	.37	.45
Drying	<u>.83</u>	<u>.94</u>	<u>1.18</u>
Total (including operator labor)	16.82	19.81	30.64
Operator labor	<u>2.50</u>	<u>3.06</u>	<u>3.38</u>
Total (excluding operator labor)	14.32	16.75	27.26
Percent of 1970	100	117	190
Yield--bushels	40.5	45.0	46.5
Fertilizer			
N.--pounds	62	62	62
P O --pounds	27	27	27
K O--pounds	2	2	2

1/ Revised

Table 19--Irrigated grain sorghum: Estimated variable costs per
planted acre for Kansas irrigated area Y 1970,

1973 and 1974

Item	1970 1/	1973 -dollars-	1974
Labor	8.77	10.69	11.67
Seed	2.07	2.44	3.29
Fertilizer N.	11.97	14.14	28.24
P.	4.29	5.07	8.65
K.	.48	.58	.77
Fuel equipment repairs	4.48	5.29	6.59
Irrigation (fuel and repairs)	7.48	8.82	11.01
Chemicals	.23	.25	.30
Custom worked hired	2.24	2.64	3.17
Drying	1.44	1.96	2.09
Insurance	.04	.05	.07
Interest	.84	1.09	1.24
Total (including operator labor)	<u>44.33</u>	<u>53.02</u>	<u>77.09</u>
Operator labor	<u>7.28</u>	<u>8.87</u>	<u>9.69</u>
Total (excluding operator labor)	37.05	44.15	67.40
Percent of 1970	100	119	182
Yield--bushels	85.2	91.5	93.0
Fertilizer			
N.--pounds	140	140	140
P O --pounds	39	39	39
K O--pounds	12	12	12

1/ Revised

Table 20--Soybeans: Estimated variable costs per planted acre for

Northern Indiana area V 1970, 1973

and 1974

Item	1970	1973	1974
		-dollars-	
Labor	5.80	7.08	7.71
Seed	3.85	8.39	9.09
Fertilizer N.	.10	.12	.24
P.	1.30	1.53	2.61
K.	.64	.77	1.02
Lime	.70	.85	1.02
Fuel and equipment repairs	4.43	5.23	6.64
Custom work hired	2.11	2.49	2.98
Chemicals	4.30	4.86	5.72
Insurance	.06	.07	.08
Interest	<u>.50</u>	<u>.64</u>	<u>.74</u>
Total (including operator labor)	23.79	32.03	37.85
Less operator labor	<u>4.81</u>	<u>5.88</u>	<u>6.40</u>
Total (excluding operator labor)	17.75	26.15	31.45
Percent of 1970	100	147	177
Yield--bushels	26.2	27.7	28.2
Fertilizer			
N.--pounds	1	1	1
P O --pounds	14	14	14
K O--pounds	16	16	16

Table 21--Soybeans: Estimated variable cost for planted acre for

Mississippi Delta area B (loam soil)

1970, 1973 and 1974

Item	1970	1973	1974
		-dollars-	
Labor	6.25	7.62	8.31
Seed	4.50	9.81	10.62
Fuel and equipment repairs	9.72	11.48	14.60
Chemicals	2.50	2.82	3.32
Custom work hired	.21	.25	.30
Interest	<u>.44</u>	<u>.57</u>	<u>.65</u>
Total (including operator labor)	23.62	32.55	37.80
Operator labor	<u>4.69</u>	<u>5.72</u>	<u>6.23</u>
Total (excluding operator labor)	18.93	26.83	31.57
Percent of 1970	100	142	167
Yield--bushels	24.0	24.4	24.6
Fertilizer--	0	0	0

Table 22--Soybeans: Estimated variable costs per planted acre for the coastal plain of South Carolina and Georgia area B

Item	1970, 1973 and 1974		
	1970	1973	1974
		-dollars-	
Labor	4.60	5.61	6.11
Seed	3.75	8.18	8.85
Fertilizer Mixed	6.06	7.30	10.97
Lime	1.29	1.56	1.87
Fuel and equipment repairs	7.29	8.60	10.95
Chemicals	3.27	3.70	4.35
Interest	.97	1.25	1.34
Custom work hired	<u>.37</u>	<u>.44</u>	<u>.52</u>
Total (including operator labor)	27.60	36.64	44.96
Operator labor	3.46	4.23	4.55
Total (excluding operator labor)	24.14	32.41	40.41
Percent of 1970	100	134	167
Yield--bushels	25	25.5	25.7
Fertilizer			
N.--pounds	3	3	3
P ₂ O ₅ --pounds	16	16	16
K ₂ O--pounds	38	38	38

Table 23--Upland cotton, solid plant: Estimated variable costs per
harvested acre for Eastside, San Joaquin Valley area A1
1970, 1973 and 1974

Item	1970	1973	1974
		-dollars-	
Labor	46.74	57.02	62.16
Seed	4.48	5.24	7.21
Fertilizer N.	9.00	10.53	21.24
P.	3.15	3.72	6.33
K.	.25	.30	.40
Gypsum	1.50	1.82	2.18
Fuel and equipment repairs	27.21	30.48	40.82
Chemicals	13.88	15.68	18.46
Custom work hired	17.99	21.23	25.37
Irrigation water	13.30	14.90	17.02
Hail Insurance	.25	.30	.35
Ginning	36.02	37.00	43.94
Interest	<u>4.23</u>	<u>5.45</u>	<u>6.22</u>
Total (including operator labor)	178.00	203.67	251.70
Operator labor	<u>11.68</u>	<u>14.26</u>	<u>15.54</u>
Total (excluding operator labor)	166.32	189.41	236.16
Percent of 1970	100	114	142
Yield--pounds	760	760	760
Fertilizer			
N.--pounds	100	100	100
P ₂ O ₅ --pounds	13	13	13
K ₂ O--pounds	4	4	4

Table 24--Irrigated Upland cotton: Estimated variable cost per planted
acre for the High Plain of Texas Area J, clay loam soils,
preplant plus 2 irrigation low cost irrigation, 1970, 1973 and 1974

Item	1970	1973	1974
		-dollars-	
Labor	14.47	17.62	19.24
Seed	5.04	5.91	8.11
Fertilizer N.	4.20	4.96	9.91
P	2.40	2.83	4.82
Fuel and equipment repairs	7.68	9.27	11.79
Ginning	20.78	26.48	27.72
Custom work hired	5.78	6.82	8.15
Chemicals	4.02	4.54	5.35
Irrigation	5.76	6.45	8.06
Interest	<u>1.49</u>	<u>1.92</u>	<u>2.19</u>
Total Incl. operator labor	71.80	86.80	105.34
Less operator labor	<u>9.69</u>	<u>11.80</u>	<u>12.90</u>
Total (excluding operator labor)	62.11	75.00	92.44
Percent of 1970	100	121	149
Yield-- pounds	570	572	573
Fertilizer N.--pounds	60	60	60
P205--pounds	20	20	20

Table 25--Upland cotton solid plant: Estimated variable costs per
planted acre for Delta area B, loam soils 1970,
1973 and 1974

Item	1970	1973	1974
		-dollars-	
Labor	17.04	20.79	22.66
Seed	2.60	3.04	4.19
Fertilizer N.	6.60	7.79	15.58
Lime	5.10	6.17	7.40
Fuel and equipment repairs	30.76	36.30	45.22
Custom work hired	3.40	4.01	4.79
Chemicals	25.27	28.56	33.61
Ginning	29.08	35.85	37.64
Interest	<u>1.99</u>	<u>2.56</u>	<u>2.92</u>
Total Incl. operator labor	121.84	145.07	174.01
Less operator labor	<u>12.80</u>	<u>15.59</u>	<u>17.00</u>
Total (excluding operator labor)	109.04	129.48	157.01
Percent of 1970	100	119	144
Yield-- pounds	710	712	713
Fertilizer N.--pounds	110	110	110

Table 26--Upland cotton: Estimated variable costs per planted acre

for the Southeastern Coastal Plain area B

1970, 1973 and 1974

Item	1970	1973	1974
		-dollars-	
Labor	17.21	21.00	22.89
Seed	2.89	3.38	4.65
Fertilizer (Mixed)	13.75	16.50	24.89
N.	6.12	7.22	14.44
Lime	1.29	1.56	1.87
Fuel and equipment repairs	15.72	18.55	23.58
Chemicals	30.98	35.01	41.20
Custom work hired	2.94	3.46	4.14
Interest	3.22	4.15	4.73
Warehousing	2.03	2.70	3.10
Ginning	<u>15.57</u>	<u>20.87</u>	<u>21.91</u>
Total (including operator labor)	111.72	134.40	167.40
Operator labor	<u>12.91</u>	<u>15.75</u>	<u>17.17</u>
Total (excluding operator labor)	98.81	118.65	150.23
Percent of 1970	100	120	152
Yield --pounds	489	490	491
Fertilizer			
N.--pounds	87	87	87
P ₂ O ₅ --pounds	27	27	27
K ₂ O--pounds	71	71	71



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